

Answer the following questions and click Record Answers

Don't guess!! "Do not know" is a perfectly good answer. You will learn the answers to questions like these in your investigation.

1) Cosmic ray flux decreases:

- ☐ when sun is below the horizon.
- ☐ during precipitation events.
- ☐ when barometric pressure is high.
- ☐ all of the above
- ☐ do not know

2) Cosmic rays are currently detected by:

- ☐ scintillation detectors.
- ☐ Cerenkov radiation detectors.
- ☐ photodiodes that measure fluorescent light in the sky on moonless, cloudless nights.
- ☐ all of the above
- ☐ do not know

3) Cosmic rays typically travel:

- ☐ at the speed of light.
- ☐ at nearly the speed of light.
- ☐ faster than the speed of light.
- ☐ do not know

4) Cosmic ray muon flux at earth surface is enhanced by:

- ☐ time dilation for the muon.
- ☐ time dilation for our clocks.
- ☐ length contraction for us.
- ☐ do not know

5) The energies of cosmic rays compare to:

- ☐ a dropped brick.
- ☐ a truck collision.
- ☐ a speeding train locomotive.
- ☐ the Earth in orbit.
- ☐ do not know

6) Source of data errors in measuring cosmic rays is:

- ☐ calibration drift.
 - ☐ scintillator light leaks.
 - ☐ photomultiplier dark current.
 - ☐ all of the above
 - ☐ do not know
-

7) Cosmic rays come from:

- ☐ within our solar system.
 - ☐ within our galaxy.
 - ☐ beyond our galaxy.
 - ☐ all of the above
 - ☐ do not know
-

8) Why do contemporary scientists study cosmic rays?

- ☐ They do not: they have already answered all the questions about cosmic rays.
 - ☐ They are searching for signs of extraterrestrial intelligence.
 - ☐ They are trying to solve the mystery of the origin of ultra energy cosmic rays.
 - ☐ none of the above
 - ☐ do not know
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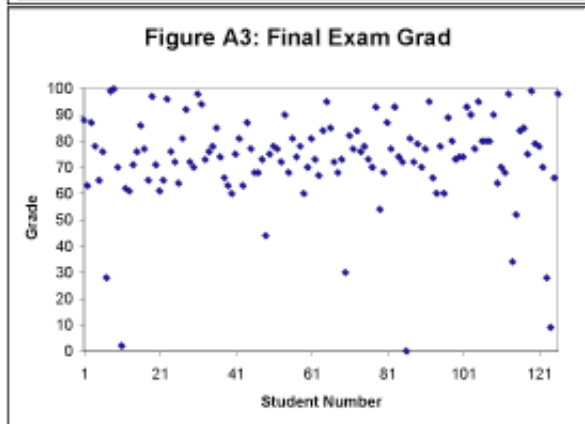
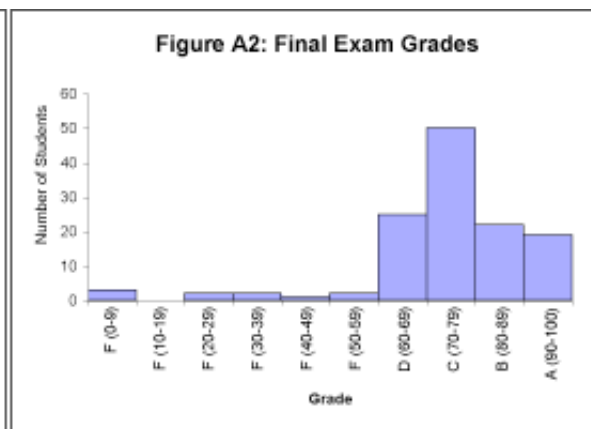
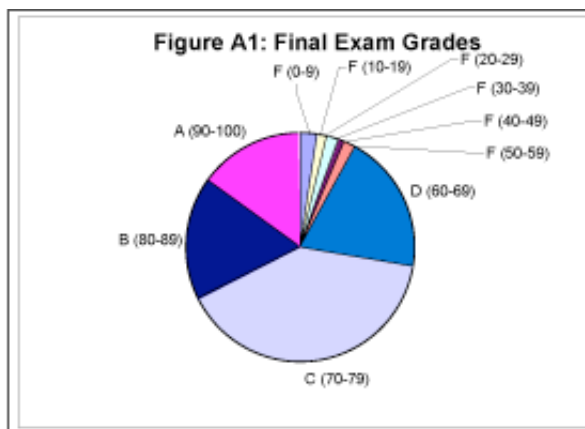
9) A local television station displays the weather data for two nearby schools. Alan Shepard H. S. reports a pressure of 29.97 inches of Mercury and Proviso West H. S. reports 30.01 inches. Which is the best way to verify that the difference is real and not some calibration error?

- ☐ Bring the two pressure sensors to the same location and see if their measurements agree.
 - ☐ Compare the altitude of the two schools.
 - ☐ Check the pressure at other nearby locations.
 - ☐ Check with the pressure sensor manufacturer.
 - ☐ do not know
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10) A teacher has written a new final exam for his five sections of chemistry and has been asked to present the results to his department chairman. What data should he use?

- ☐ Class-level data: The average scores of each of his five classes.
 - ☐ Overall data: The average score of all of his students.
 - ☐ Student-level data: The individual scores of each of his students.
 - ☐ do not know
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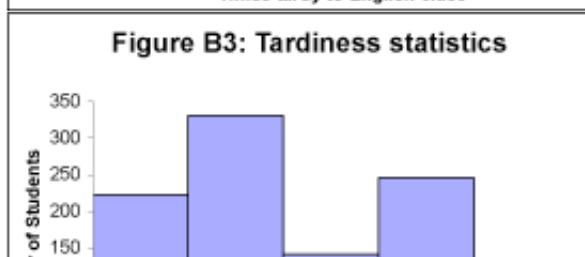
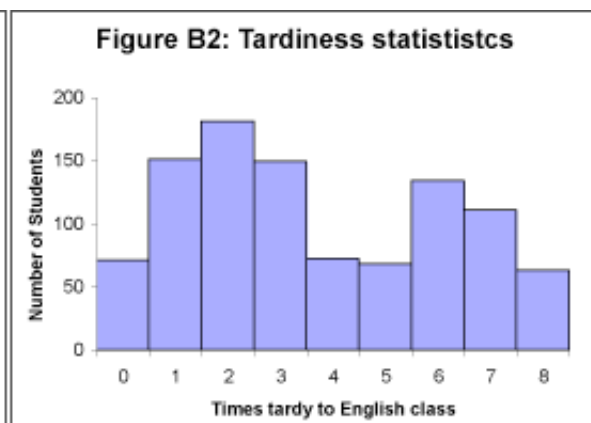
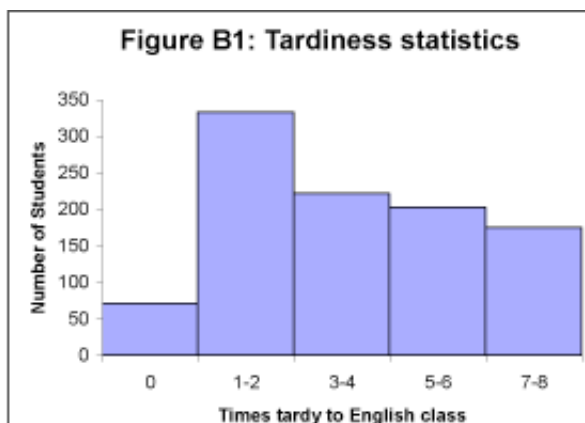
11) Examine Figures A1, A2, and A3, three representations of the data from the new exam.



Which of the three representations provides the most useful graphical information?

- ☐ Figure A1, the pie chart
- ☐ Figure A2, the histogram
- ☐ Figure A3, the scatterplot
- ☐ do not know

12) Examine Figures B1, B2, and B3, which were all generated from the same data on student tardiness ($n = 1,000$ students).





Which histogram gives you the most information about student tardiness?

- ☐ Figure B1
 - ☐ Figure B2
 - ☐ Figure B3
 - ☐ do not know
-

13) Which histogram is the most misleading about the actual pattern of student tardiness?

- ☐ Figure B1
 - ☐ Figure B2
 - ☐ Figure B3
 - ☐ do not know
-

14) Which of the following statements best describes the pattern of student tardiness?

- ☐ There are two main groups of students: rarely tardy (1-3 times), and frequently tardy (6-7 times).
 - ☐ Very few students are never tardy, but generally, as the number of tardies increases, the number of students with that number of tardies decreases.
 - ☐ There is no real pattern. The number of students with a given number of tardies jumps around randomly.
 - ☐ do not know
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15) Which of the three histograms was most useful in answering the previous question?

- ☐ Figure B1
 - ☐ Figure B2
 - ☐ Figure B3
 - ☐ do not know
-

16) Which of the three histograms would you use to draw a curve representing this data?

- ☐ Figure B1
 - ☐ Figure B2
 - ☐ Figure B3
 - ☐ do not know
-

Record Answers

Reset Answers